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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,520	09/24/2003	Masanobu Sato	P/4178-9	4349

2352 7590 03/09/2006

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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,520

Applicant(s)

SATO ET AL.

Examiner

Yewebdar T. Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-11, 47, 48 and 50-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 47, 48 and 50-55 is/are allowed.
- 6) ☒ Claim(s) 1-3, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/18/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1-7 and 10-11 is withdrawn in view of the newly discovered reference(s) to Wen (US 6,239,038). Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claim 50 is objected to because of the following informalities: Claim 50 depends from the cancelled claim 49. For the purpose of examination claim 50 depending from claim 9 is assumed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wen (US 6,239,038).

As to claim 1, Wen discloses (see Fig 2 or 16) a substrate processing apparatus that a processing liquid (chemical) is supplied to one major surface of a substrate and one major surface is subjected to predetermined substrate processing, comprising: an atmosphere blocking member (base 14 with fingers 42) which is faced with other major

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surface of the substrate and that is away from the substrate (12); and a gas supply unit (gas 48) which supplies an atmosphere gas to a space which is created between the atmosphere blocking member (base 14 with fingers 42) and the substrate (12) and wherein the atmosphere blocking member (base 14 with fingers 42) which is faced with other major surface of the substrate and that is away from the substrate (12) becomes closer to the substrate with a distance toward a periphery edged of the atmosphere blocking member (see Fig 2). Wen further discloses (see Fig 2) a central area of the substrate –facing surface which is faced with an approximately central portion of the substrate is flat surface (see plate 20) and a periphery edge area of the substrate-facing surface of the atmosphere blocking member (base 14 with fingers 42) which is faced the periphery edge of the substrate is angles surface which becomes closer to the substrate with a distance toward a periphery edge of the substrate-facing surface.

With respect to claim 10, Wen discloses (see Fig 7), a transportation unit (transfer units 118, 119), which transports substrates to the processing unit.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wen (US 6,239,038) in view of Lubomirsky et al (US 2003/0131494). In the embodiments of Fig 2, Wen discloses rotation means (40 motor) rotating the atmosphere-blocking member (upper plate), but lacks teaching a rotatable substrate to which the processing liquid is supplied in Fig 2. Lubomirsky discloses (see Fig 3 and claim 9) selectively rotating atmosphere-blocking member (lower plate 302 and upper plate 326). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a rotating atmosphere blocking member to which the processing liquid is supplied and a rotating means in Wen to facilitate the treatment process of both sides of the substrate.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wen (US 6,239,038) as applied to claim 10 and further in view of Matsukawa et al (US 5,518,542). Wen lacks teaching a reversing unit, which reverses substrate. Matsukawa et al discloses (see Figs 6-7 and Abstract) double-sided substrate cleaning apparatus

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having a transportation unit (conveying mechanism 5) to transfer the substrate from processing unit and reversing unit (reversing mechanism 10) to reverse the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reversing unit in Wen in case one of the upper or the lower processing fluid supplying means is not working and reversing of the substrate is required.

Allowable Subject Matter

9. Claims 9, 47-48 and 50-55 are allowed.

10. Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: As to claims 4-7, Miya et al (2004/0040584) discloses (see paragraph 50) three or more chuck pins for grasping the peripheral edges of the wafer. However, it would have not been obvious to combine Miya et al's support members or pins with the device shown by Wen. Prior art of record does not disclose or suggest a substrate processing apparatus comprising, among others, at least three or more support members, which are disposed at the periphery edges of the atmosphere-blocking member, abut on an edge of the substrate and accordingly support the substrate.

With respect to claims 9, 47-48 and 50-54, prior art of record does not disclose or suggest a substrate processing apparatus comprising, among others, at least three or more support members which are disposed at the periphery edges of the atmosphere blocking member, abut on an edge of the substrate and accordingly support the substrate in combination with atmosphere blocking member having a diameter which is smaller than the substrate.

As to claim 55, Wen discloses atmosphere-blocking member becoming closer to the substrate at some edge portions of the blocking member (see where flanges 42 are Fig 2). Wen does not disclose a blocking member which is faced with the major surface of the substrate becomes closer to the substrate over the entire circumference of the atmosphere-blocking member. Prior art of record does not disclose or suggest a substrate processing apparatus comprising, among others, a blocking member, which is faced with the major surface of the substrate becomes closer to the substrate with a distance toward a periphery edge of the atmosphere-blocking member *over the entire circumference* of the atmosphere-blocking member.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lewell P. F.

YTT

CA Fiorilla

CHRIS FIORILLA
SUPERVISORY PATENT EXAMINER

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